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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/653,192	09/03/2003	Hyeong-Gon Noh	1567.1053	1737

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EXAMINER
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WEINER, LAURA S

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

11

<b>Office Action Summary</b>	Application No. 10/653,192	Applicant(s) NOH ET AL.	
	Examiner Laura S. Weiner	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-63 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-28, 38-42 , drawn to an electrolyte comprising an organic solvent with a high boiling point and a carbonate-based additive, classified in class 429, subclass 307.
  - II. Claims 29-37, drawn to an electrolyte comprising an organic solvent with a high boiling point, a carbonate based additive and an organic sulfone, classified in class 429, subclass 340.
  - III. Claims 43-44, drawn to an electrolyte comprising a mixed solvent comprising GBL/EC/EMC/DMC/fluorobenzene, classified in class 429, subclass 330.
  - IV. Claim 45, drawn to a method of preparing an electrolyte, classified in class 429, subclass 188.
  - V. Claim 46, drawn to a method of preparing a secondary battery, classified in class 29, subclass 623.1.
  - VI. Claims 47-63, drawn to an electrolyte comprising a mixture of GBL, a carbonate-based additive and an organic sulfone-based compound, classified in class 429, subclass 338.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II and III and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different

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modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not disclosed as capable of use together and different effects such that Invention I requires additional solvents such as organic solvent with a low boiling point or an aromatic hydrocarbon organic solvent or the compound cited as Formula (4) or a swelling-inhibiting additive which is not required in the other groups; Group II requires an organic sulfone-based compound which is not required in the other groups; Group III requires a mixed solvent comprising GBL/EC/EMC/DMC/fluorobenzene which is not required in the other groups and Group VI requires a mixed solvent of GBL and an organic sulfone-based compound which is not required in the other groups.

3. Inventions IV and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not disclosed as capable of use together and have different modes of operation such that the method of preparing an electrolyte could be used for a method of making a capacitor.

4. Inventions I, II, III, VI and IV, V are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process

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(MPEP § 806.05(f)). In the instant case the process as claimed can be used to make other and materially different product such as the products of Inventions I, II, III or VI.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. This application contains claims directed to the following patentably distinct species of the claimed invention:

If you pick Invention I:

A) pick 1) halogen or 2) CN or 3) NO<sub>2</sub> as the substituent of the carbonate-based additive.

B) pick 1) electrolyte without additional solvents or additives (claims 1-12) or

2) electrolyte further comprising an organic solvent with a low boiling point (claims 1-12, 13-14) or

3) electrolyte further comprising an aromatic hydrocarbon organic solvent (claims 1-12, 15-16), choose one from claim 16 or

4) electrolyte further comprising an organic-based compound (claims 1-12, 17-22), define R1 and R2 and therefore pick one from claim 20 or

5) electrolyte further comprising a compound of formula (4) (claims 1-12, 23-26) define R4 and X and choose one from claim 24 or

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6) electrolyte further comprising a swelling-inhibiting additive (claims 1-12, 27-28), choose one from claim 28.

If choose Invention II:

A) define R1 and R2 and therefore pick one from claim 32.

B) pick halogen or CN or NO<sub>2</sub> as the substituent of the carbonate-based additive cited in claims 34-35.

If choose Invention III:

A) pick halogen or CN or NO<sub>2</sub> as the substituent of the carbonate-based additive cited in claim 43.

If choose Invention VI:

A) define R1 and R2 from claims 52-53 and therefore pick one from claim 54.

B) pick halogen or CN or NO<sub>2</sub> as the substituent of the carbonate-based additive cited in claims 47-48.

C) pick 1) electrolyte without additional solvents or additives (claims 47-57) or

2) electrolyte further comprising an aromatic hydrocarbon organic solvent (claims 47-57, 58-59), choose one from claim 59 or

3) electrolyte further comprising a compound of formula (4) (claims 47-57, 60-63) define R4 and X and choose one from claim 61.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

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7. A telephone call was not made due to the complexity to request an oral election to the above restriction requirement, therefore an election was not made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Laura S. Weiner', is positioned above the printed name.

Laura S Weiner  
Primary Examiner  
Art Unit 1745

November 17, 2005